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10/766,024	01/29/2004	Satoshi Mikami	19546.0053	2666

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EXAMINER
KIM, DAVID S

ART UNIT	PAPER NUMBER
2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

Office Action Summary	Application No. 10/766,024	Applicant(s) MIKAMI, SATOSHI
	Examiner David S. Kim	Art Unit 2613

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 January 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-13</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-13</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 January 2004</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Drawings

1.   Figures 16-18B should be designated by a legend such as --Prior Art-- because only that which is

old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are

required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s)

should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be

notified and informed of any required corrective action in the next Office action. The objection to the

drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for

the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   **Claims 1-3, 5-9, and 12-13** are rejected under 35 U.S.C. 102(a) and (e) as being anticipated by

Nishimoto et al. (U.S. Patent Application Publication No. US 2002/0089724 A1, hereinafter

"Nishimoto").

Regarding claim 1, Nishimoto discloses:

An apparatus (e.g., Fig. 1) for controlling compensation of dispersion for compensating for

waveform degradation of optical signal caused by characteristic of wavelength dispersion on an optical

transmission path, comprising:

a variable compensator (10) of dispersion for compensating for waveform degradation of said

optical signal;

a monitoring circuit (12) for generating a quality information of transmission path of the optical

signal which has been compensated for the waveform degradation by the variable compensator of

dispersion; and

a controlling circuit (13) for controlling an amount of dispersion compensation in the variable

compensator of dispersion, based on the quality information of transmission path generated by the

monitoring circuit, so as to become a quality of transmission path to a best value (e.g., "optimum value" in

paragraph [0064]), the controlling circuit for sweeping (e.g., "swept" in paragraph [0065]) across a

variable range of the amount of dispersion compensation in the variable compensator of dispersion, to

thereby determine the quality of transmission path, the controlling circuit for setting the amount of the

dispersion compensation corresponding to the best value (e.g., "optimum value" in paragraph [0064]) of

the quality of transmission path as a value of initial setting (e.g., "initial setting" in paragraph [0064]) in

the variable compensator of dispersion.

Regarding claim 2, Nishimoto discloses:

An apparatus (e.g., Fig. 1) for controlling compensation of dispersion for compensating for

waveform degradation of optical signal caused by characteristic of wavelength dispersion on an optical

transmission path, comprising:

a variable compensator (10) of dispersion for compensating for waveform degradation of said

optical signal;

a monitoring circuit (12) for generating a quality information of transmission path of the optical

signal which has been compensated for the waveform degradation by the variable compensator of

dispersion; and

a controlling circuit (13) for controlling an amount of dispersion compensation in the variable

compensator of dispersion, based on the quality information of transmission path generated by the

monitoring circuit, so as to become a quality of transmission path to a best value (e.g., "optimum value" in

paragraph [0064]), the controlling circuit for sweeping (e.g., "swept" in paragraph [0065]) across a

variable range of the amount of dispersion compensation in the variable compensator of dispersion, to

thereby determine the quality of transmission path, the controlling circuit for setting a center value (e.g.,

"center" in paragraph [0066]) in a range of the amount of dispersion compensation when the quality of transmission path becomes higher than a preset threshold (Fig. 6, re-setting operation start threshold) as a value of initial setting (e.g., "initial setting" in paragraphs [0064] and [0069]) in the variable compensator of dispersion.

Regarding claim 3, Nishimoto discloses:

A apparatus for controlling compensation of dispersion according to claim 1 or 2, wherein the quality of transmission path is adopted a bit error rate ("bit error rate" in paragraph [0065]).

Regarding claim 5, Nishimoto discloses:

An apparatus for controlling compensation of dispersion according to claim 1,

wherein the controlling circuit sets initially a first threshold (Fig. 6, re-setting operation start threshold) and a second threshold (Fig. 6, search operation threshold) that is lower quality of transmission path than the first threshold on the quality of transmission path, the controlling circuit sweeps across a variable range of the amount of dispersion compensation in the variable compensator of dispersion when the quality of transmission path becomes lower than the first threshold (sweeping for the solid line in Fig. 6), to thereby re-set (new setting in Fig. 6) an amount of dispersion compensation corresponding to a best value of the quality of transmission path in the variable compensator of dispersion.

Regarding claim 6, Nishimoto discloses:

An apparatus for controlling compensation of dispersion according to claim 2,

wherein the controlling circuit sets initially a first threshold (Fig. 6, re-setting operation start threshold) and a second threshold (Fig. 6, search operation threshold) that is lower quality of transmission path than the first threshold on the quality of transmission path, the controlling circuit sweeps across a variable range of the amount of the dispersion compensation in the variable compensator of dispersion when the quality of transmission path becomes lower than the first threshold (sweeping for the solid line in Fig. 6), to thereby re-set a center value (new setting in Fig. 6) in a range of the amount of dispersion compensation when the quality of transmission path becomes higher than the second

threshold (exceeding the "re-setting operation start"/first threshold in paragraph [0069] includes the

scope of exceeding the "search operation"/second threshold) in the variable compensator of dispersion.

Regarding claim 7, claim 7 is a method claim that corresponds largely to the apparatus claim 1.

Therefore, the recited means in apparatus claim 1 read on the corresponding means in method claim 7.

Claim 7 also includes limitations absent from claim 1. Nishimoto also discloses these limitations:

- performing the sweeping step and the setting step "at initial setting" (initial setting in

paragraphs [0064-0066]).

Regarding claim 8, claim 8 is a method claim that corresponds largely to the apparatus claim

2. Therefore, the recited means in apparatus claim 2 read on the corresponding steps in method claim 8.

Claim 8 also includes limitations absent from claim 2. Nishimoto also discloses these limitations:

- performing the sweeping step and the setting step "at initial setting" (initial setting in

paragraphs [0064-0066]).

Regarding claim 9, claim 9 is a method claim that introduces limitations that correspond to the

limitations introduced by apparatus claim 3. Therefore, the recited means in apparatus claim 3 read on

the corresponding steps in method claim 9.

Regarding claims 12-13, claims 12 and 13 are method claims that introduce limitations that

correspond to the limitations introduced by apparatus claims 5 and 6, respectively. Therefore, the recited

means in apparatus claims 5-6 read on the corresponding steps in method claims 12-13.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 4 and 10-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto.

Regarding claim 4, Nishimoto discloses:

A apparatus for controlling compensation of dispersion according to claim 3,

wherein the controlling circuit sweeps across the variable range of the amount the dispersion compensation in the variable compensator of dispersion, to thereby execute a calculation of bit error rate ("bit error rate" in paragraph [0065]) to thereby find the value of initial setting.

Nishimoto does not expressly disclose:

wherein the controlling circuit sweeps across the variable range of the amount the dispersion compensation in the variable compensator of dispersion, to thereby execute *a detection of synchronization* and/or a calculation of bit error rate, *and skips through a designated step on the sweeping*, to thereby find the value of initial setting *when the synchronization is not detected.*

However, notice that Nishimoto teaches the use of the apparatus according to SONET (end of paragraph [0054]), which is synchronous. Accordingly, one would obviously expect "a detection of synchronization" in any initialization process, including the process of setting the "value of initial setting".

Additionally, if synchronization is not detected in a synchronous system, such as SONET, then one would generally understand the communication link is not yet ready for normal service operation. Moreover, skipping a designated step is a well-known and intuitively obvious practice in any process. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to skip through a designated step on the sweeping when the synchronization is not detected. One of ordinary skill in the art would have been motivated to do this since one generally skips unnecessary steps to avoid unnecessary use of time and resources. In this case, when the synchronization is not detected, the communication link would generally not be ready for normal service operation, so performing the entire sweeping process would be unnecessary.

Regarding claim 10, claim 10 is a method claim that corresponds largely to the apparatus claim 4. Therefore, the recited means in apparatus claim 4 read on the corresponding steps in method claim 10. Claim 10 also includes limitations absent from claim 4. Nishimoto also discloses these limitations:

- performing the sweeping step and skipping step ("skipping" would be included in any

initialization process according to the obvious argument presented in the treatment of claim 4 above) "at

initial setting" (initial setting in paragraphs [0064-0066]).

Regarding claim 11, Nishimoto discloses:

A method for controlling compensation of dispersion according to claim 10, the method for

controlling compensation of dispersion further comprising the steps of:

at initial setting,

sweeping across the variable range of the amount of dispersion compensation in the variable compensator

of dispersion, to thereby execute the determination of the bit error rate and a detection of synchronization

(see treatment of claim 10 above)

Nishimoto does not expressly disclose:

sweeping across the variable range of the amount of dispersion compensation in the variable compensator

of dispersion, to thereby execute the determination of the bit error rate and a detection of synchronization

that detects under conditions of loss of frame, out of frame, and the bit error rate below a

designated bit error rate.

However, notice that Nishimoto teaches the use of the apparatus according to SONET (end of

paragraph [0054]), which is synchronous and employs frames. Three common fault conditions related to

synchronization detection are loss of frame, out of frame, and insufficient bit error rate. Accordingly,

one would obviously expect "a detection of synchronization" to include detection of conditions of loss of

frame, out of frame, and the bit error rate below a designated bit error rate.

Conclusion

6.   The references made of record and not relied upon are considered pertinent to applicant's

disclosure. Ishikawa (U.S. Patent No. 6,320,687 B1) is cited to show a process for controlling

compensation of dispersion, including aspects of an initial setting, system operation, sweeping a

dispersion value, and determining a best value of a quality of transmission path (Fig. 28 and the

corresponding specification). Nishimoto et al. (European Patent Application EP 1 223 694 A3) is cited to

show the search report for a dispersion compensating method, dispersion compensating apparatus and optical transmission system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSK

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER